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RE: Proposed New Hampshire MS4 General Permit

Dear Mr. Tedder:

Although we are located in Massachusetts, the Neponset River Watershed Association (NepRWA) would like to comment on your draft MS4 permit for the State of New Hampshire. It is our understanding that comments on the New Hampshire proposal may well impact the Massachusetts MS4 permit proposal, which is scheduled for later this year.

NepRWA believes that overall, the 2013 proposal is a great improvement over the current 2003 permit, containing much greater specificity to guide MS4s on what they need to do to stay in compliance. It is also significantly better than the 2008 and 2010 MS4 proposals for New Hampshire and Massachusetts, respectively. If fully implemented, the permit should result in much improved water quality in areas with MS4s. We strongly support the final adoption of this proposal, although we have some suggestions listed in the Section by Section analysis, below.

Other than the MS4 municipalities themselves, watershed associations and local environmental organizations are frequently in the best position to provide information relevant to the implementation of the MS4 permit. The General Permit should establish a formal procedure whereby a third party may submit such information. For example, Section 1.4, "Allowable Non-Stormwater Discharges," states that if "the permittee, EPA or the state agency identifies any category of non-stormwater discharge in Part 1.4.a-r as a significant contributor of pollutants to the MS4, , then that category is not allowed under Part 1.4, but rather shall be deemed an 'illicit discharge' under Part 2.3.4.1." Watershed organizations and other third parties could be useful in providing information that would assist any of these three parties make such a determination.

Section-by-Section Analysis.

Section 1.0 Introduction

1.7.2 and Appendix E, Notice of Intent (NOI). NepRWA strongly supports the inclusion of the proposed electronic NOI in the final MS4 general permit. This is critical if watershed associations (as well as EPA and other interested parties) are to know the extent of compliance with the General Permit by each town. We would request that:

- NOIs be placed on the EPA website, available for public viewing;

- EPA develop (if it hasn't done so already) a reporting tool for the NOI data base so that, for example, watershed associations can compare the NOIs of the various towns in their watersheds;
- MS4s be *required* to use (or at least be made to show cause why they shouldn't be required to use) the electronic NOI, rather than allowing them to submit an NOI that "contains the information" identified in Appendix E. Our experience in Massachusetts with NOIs and Annual Reports submitted under the 2003 MS4 permit is that very few MS4s are addressing all of its provisions, even though the permit requires that they do so. As we understand how the electronic NOI will function, MS4s will not be able to skip any of the listed items before going on to the next. Having only some NOIs filed electronically would make it much more difficult for watershed associations and EPA itself to compare the progress and compliance rates of various towns.
- EPA develop at an appropriate time electronic forms for Annual Reports and, if possible, for SWWPs, Water Quality Response Plans, and IDDE programs, and post them on line.

Section 2.0 Non-Numeric Effluent Limitations

Section 2.1 Water Quality Based Effluent Limitations and 2.2 Discharges to Impaired Waters.

We strongly believe that EPA should identify in the permit or in guidance those BMPs that are effective at reducing various pollutants of concern. *See, for example, our organization's draft Guidance on effective bacteria BMPs (attached).*

We don't believe that the requirements of 2.1 and 2.2. (although excellent additions to the 2003 permit) will necessarily reduce pollutants to the "maximum extent practicable" in every case. The "additional" BMPs in Section 2.2.2.a.ii.(b)2. are not a comprehensive list. Although that subsection only covers the first year (Phase 1) of the permit, even the requirements in the subsections for Phase 2 and 3 do not provide any specific additional BMPs except for retrofit BMPs in Phase 3. Our comments on Section 2.2.2.a.ii.(b), below, suggest some additional BMP possibilities.

2.2.1 and Appendix F: Discharges Subject to an Approved TMDL.

We are not familiar with the data on which the bacteria discharge limits and percentage reductions contained Table F-1 of Appendix F are based, so we cannot comment on them. We would note that Section 2.2.1.(b) states that discharges subject to a TMDL must comply with Part 2.2 (which includes 2.2.2 on "discharges to waters *without* TMDLs"). Appendix F also says that MS4s subject to a Bacteria TMDLs must comply with 2.2.2. Therefore we believe that *the title of Section 2.2.2. needs to be changed to "Discharges to all Impaired Waters."* Without a different title it is unlikely that all MS4s subject to Bacteria TMDLs (which is most MS4s in NH) will think the section applies to them.

2.2.2 Discharges to an Impaired Water without an Approved TMDL. See comments directly above regarding the title of this subsection. Because the requirements of Phase 1 must be completed within one year of the permit effective date, EPA should stress to MS4s that work on Phase 1 should begin as soon as their NOIs are submitted for approval. *Indeed*, a chronological list of all of the permit's requirements would be extremely useful to help MS4s develop implementation schedules.

Section 2.2.2.a.ii.(b)2. should be require that permittees, to the maximum extent practicable, implement as many of the listed BMPs as are necessary to demonstrate that they are not contributing to a violation of a water quality standard or a TMDL WLA. In the case of development/redevelopment requirements (subsection c), we

believe that listed BMPs should be mandatory unless the permittee shows in an NOI or Annual Report why they are not appropriate due to special circumstances. At a minimum, this should apply to MS4s discharging to waters with TMDLs.

Additional BMPs that we believe should be listed under 2.2.2.a.ii.(b)2 are:

Under c) for development/redevelopment ordinances:

- lists of BMPs which are, in fact, effective at reducing various pollutants of concern; see, for example, the draft guidance compiled by NepRWA on effective bacteria BMPs (attached);
- application of stormwater standards to areas disturbing 5,000 square feet or more (the proposed NH permit says “less than one acre.”);
- larger fines and increased funding for enforcement;
- a bylaw provision establishing a stormwater utility with fees (for new and existing development) based on the amount of impervious surface (fee could be a small, standard amount for single family homes);
- requiring that roof downspouts do not discharge to impervious surfaces;
- a provision forbidding existing large impervious areas (such as shopping centers and supermarkets) to discharge to an MS4 without retrofitting with stormwater BMPs, to the maximum extent practicable.

Under d) for Good Housekeeping and Pollution Prevention, the BMP list should include use of more effective street sweeping technologies such as vacuum or regenerative air.

Under f) Structural BMP retrofits, the list should include requiring businesses with large impervious areas to pay for at least a portion if not all required retrofits that reduce runoff going to an MS4.

Section 2.3 Requirements to Reduce Pollutants to the Maximum Extent Practicable.

Although the “additional BMPs” referenced in Section 2.2.2.a.ii.(b)2., discussed directly above, cross references the minimum control measures identified in Section 2.3, Section 2.3 does not cross reference the “additional” BMPs listed in Section 2.2.2. Because Section 2.3 covers the minimum control measures that exist in the 2003 NH MS4 permit, while the requirements of 2.2.2 are almost entirely new, *cross referencing in Section 2.3 is essential* to ensure that MS4s discharging to impaired waters consider all the listed BMPs that are reasonably available.

Section 2.3.2. Public Education. We appreciate the suggestion in the new proposal that permittees partner with watershed associations on public education, something our watershed association has been doing very successfully. On the other hand, we have sympathy with towns which testified at the Public Hearing that they were not clear how they are expected to show evidence of progress being made toward achieving their defined educational goals. More guidance needs to be issued on how permittees are expected to do this.

2.3.2 says that the ultimate objective of public education is to increase knowledge and change behavior of the public. This should be clarified to indicate that one of the

behaviors the public may be encouraged to take is to support efforts by their town to adequately fund stormwater management activities.

Section 2.3.4 IDDE.

- 2.3.4.3 Non-Stormwater Discharges. As noted above, there ought to be a procedure whereby third parties are given the opportunity to identify the listed sources as significant contributors of pollutants.
- 2.3.4.4 SSOs. We strongly support this proposal to beef up SSO reporting requirements. We believe that SSOs are currently underreported by a wide margin (at least in our Massachusetts watershed). However, the time allowances for reporting in subsection c are unreasonably long; oral notice can easily be given within 6 hours and written notice within 3 days after the permittee has become aware of the SSO. EPA should also establish a “hot line” on which the public may report SSOs.
- 2.3.4.6. *System mapping.* The required mapping elements listed in subsection a.i. are excellent. Under subsection b., we believe that digital mapping should be required, at least by the end of Year 2 of the permit. Our understanding is that an inventory of outfalls should already have been developed under the 2003 permit and that annual updating should be all that is required. No additional time should be allowed for meeting the requirements of the 2003 permit. The permit should also specify that this information be available digitally within a reasonable time (e.g., end of Year 2).
- 2.3.4.8. *IDDE Program and 2.3.4.9 IDDE Program Implementation Goals & Milestones.* Section 2.3.4.8 sets a 1 year deadline for developing a written IDDE program that includes 8 program elements listed in subsections a.-h. Each MS4’s IDDE program should be digitized and made available to the public.

It is not clear in Section 2.3.4.8. or 2.3.4.9 whether implementation of each of the 8 program elements must be completed before moving on to the next listed element. Furthermore, Section 2.3.4.9. does not, as it should, include milestones for completing all eight elements listed in 2.3.4.8., which is necessary in order to evaluate the milestones of each individual element. The proposed NH MS4 permit establishes milestones only for the following elements listed under 2.3.4.8:

- *a. Legal Authority* – no milestones
- *b. Statement of IDDE Program Responsibilities* – no milestones
- *c. Assessment and Priority Ranking of Catchments* – no milestones
- *d. Outfall and Interconnection Screening and Sampling.* Sec. 2.3.4.9 a. sets a deadline for completion of dry weather screening and sampling of non-Problem Catchments. For other aspects of outfall screening and sampling, Sec. 2.3.4.9.b. refers to milestones (deadlines) listed under 2.3.4.9.c., but those milestones refer to the Catchment Investigation Procedure, not Outfall Screening and Sampling. There are no deadlines, for example, for wet weather screening/sampling or for dry weather screening/sampling of problem catchments, as there need to be. The requirement in 2.3.4.8. that wet weather screening may only be done from March – June is unreasonable

and unnecessary. We believe that 25% percent of wet weather screening should be completed each year during years 2 – 5 of the permit.

- *e. Catchment Investigation Procedures.* There are milestones for this element in 2.3.4.9. c., but the adequacy of those deadlines is dependent on how long it will take to complete the preceding elements of the IDDE program (2.3.4.8.a.-d.). Furthermore, MS4s should complete the Procedure in the first 3 years for the catchments with the most serious problems, as indicated by dry weather screening. Only those with the least serious problems should be put off for years 4 and 5.
- *f. Removal and Confirmation.* Section 2.3.8.4 states only that “within one year of removal of all identified illicit discharge and SSO sources, confirmatory ... screening shall begin,” but sets no deadline for its completion of the removal phase.
- *g. Follow up Screening.* Deadlines are included in Section 2.3.4.8.
- *h. Illicit Discharge Prevention Procedures.* No milestones established.

Finally, it would be much easier for MS4s to meet whatever “milestones” are set for each IDDE program element if each individual MS4 weren’t required to establish its own procedures for outfall screening and catchment investigations. EPA should itself adopt model procedures for these activities.

Sections 2.3.5 and 2.3.6. (Construction site and post-construction stormwater management). These subsections are not sufficiently clear about what should be included in a town’s “ordinance or regulatory mechanism.” Most of the subsections of 2.3.6 require that permittees have a “program” containing certain requirements, not that these requirements need to be authorized by ordinance. Also, municipal ordinances should specifically give the MS4s the authority to enforce operation & maintenance agreements to which the town may not be a party and to levy fines for violations of their ordinance.

We are happy to see that EPA in Section 2.3.6.6 – 2.3.6.8 recognizes that many municipal bylaws, regulations, rules and design standards – not just those contained in Stormwater Bylaws – greatly impact the implementation of proper stormwater management. We believe that EPA should at least encourage towns to identify a single municipal Stormwater Manager whose job it would be to coordinate with all municipal Boards and Departments that have rules impacting stormwater. EPA should also provide, in the permit or in guidance issued pursuant to the permit, a list of the many available “Checklists” MS4s can use to evaluate the stormwater impacts of municipal zoning ordinances, construction codes, subdivision regulations, street and parking requirements, etc.

If the MS4 discharges to an impaired water and if it isn’t clear how long this condition will continue, its ordinance should include authority to implement the “additional” measures” contained in 2.2.2.a.ii.(b)2.c) and 2.2.2.a.ii.(e). It is particularly important that such town ordinances or regulations “require the use of BMPs effective at reducing the pollutants of concern in development/redevelopment within the MS4 area.”

2.2.6.6. Directly Connected Impervious Area. The proposed subsection has a lot of planning, identifying, and prioritizing, but does not appear to actually mandate that any retrofitting be implemented. It is even unclear whether retrofits are required if a town is unable to demonstrate, after implementation of other BMPs, that they are

not causing or contributing to the violation of a water quality standard (see Section 2.2.2a.ii.(b)2.f)). Surely such retrofitting should be required in that circumstance.

Thank you very much for the opportunity to comment on this proposed permit.

Sincerely yours,

Steve Pearlman
Advocacy Director

ATTACHMENT

ATTACHMENT A

Neponset River Watershed Association
Model Stormwater Management Bylaw
Total Maximum Daily Load (TMDL) Provision

Guidance on Best Management Practices for Reducing Pathogen (Bacteria) Pollution in Stormwater

Pathogen (Bacteria) Reduction Requirement

In order to comply with an applicable Bacteria TMDL(s), [TOWN NAME HERE] requires that permit applicants under the TOWN NAME HERE Stormwater Bylaw treat the first inch of runoff from all impervious areas, referred to as the “one in water quality volume,” using Best Management Practices (BMPs) capable of adequately reducing pathogen concentrations.

All references below to the “MassDEP Stormwater Handbook” or “the Stormwater Handbook” or “the Handbook” refer to the 2008 edition of the Massachusetts Stormwater Handbook as published by the Massachusetts Department of Environmental Protection, or to the equivalent section of subsequent editions of that publication.

Demonstrating Compliance with Pathogen Reduction Requirement

Demonstrating compliance with the TOWN NAME HERE pathogen reduction requirement is a *four step process*. As described in greater detail below, all applicants must:

- 1) demonstrate that they have evaluated and implemented *environmentally sensitive site design and low impact development techniques* to minimize the volume of runoff being created and reduce or eliminate the volume being conveyed to discharge via closed drainage systems;
- 2) *infiltrate or evaporate* any remaining portion of the one inch water quality volume which is not fully addressed through step 1;
- 3) to the extent that unusual site-specific constraints make it infeasible to address all of the remaining one inch water quality volume as outlined in Step 2 above, utilize *other “Pathogen-Effective” BMPs described below* to treat any portion of the one inch water quality volume not addressed in Step 2; and
- 4) demonstrate that they have incorporated specific *pollution prevention measures* into their required stormwater operation and maintenance plans.

Step 1: Environmentally Sensitive Site Design and Low Impact Development BMPs

Thoughtful site design which minimizes impervious cover and “disconnects” impervious surfaces (i.e. that direct runoff onto appropriately sized pervious areas rather than into hard piped conveyance systems) can dramatically reduce or even eliminate the volume of runoff that would otherwise need to be addressed with more expensive structural BMPs. Such techniques are often described collectively as “low impact development” or “LID.” Examples include:

- Minimizing street and driveway widths, reducing street lengths with cluster design, shared driveways, reduced front yard setbacks, single sidewalks, vegetated cul-de-sacs, and structured parking.
- Replacement of impervious surfaces with porous alternatives.
- Preservation of existing vegetation, and avoidance of soil compaction.
- Designing impervious areas to drain onto adjacent lawns, parking lot islands, rain gardens and other porous surfaces, rather than directly into catch basins.
- Green roofs.

The MassDEP Stormwater Handbook (see Volume 3, Chapter 1, beginning on page 42) lays out criteria and procedures for computing credits for specific site design and low impact development BMPs. These credits may be used to reduce or even eliminate the runoff volume to be treated in Steps 2 and 3.

Step 2: Infiltrate or Evaporate the Remaining Water Quality Volume

That portion of the first inch of runoff which has not been addressed using better site design and low impact development credits should be captured and disposed of through the use of infiltration BMPs, rainwater reuse or other measures that result in evaporation or consumptive use on site.

Note: Different sources may use similar sounding names to refer to different BMPs. Throughout this document we have used the same terminology to describe each BMP as found in the MassDEP Stormwater Handbook. In some cases, names given to a BMP in other reference sources are given in parenthesis, along with any specific design requirements for TOWN NAME HERE.

Before discharging runoff from paved areas (excluding roofs) to infiltration practices, pretreatment must achieve 44% reduction of Total Suspended Solids (TSS), or 80% when using field-dynamic sizing.

The various types of infiltration BMPs, along with procedures for designing and sizing these BMPs, are outlined in the MassDEP Stormwater Handbook (Volume 2, Chapter 2). These ***infiltration BMPs*** include:

- Infiltration basins (Handbook page 86).
- Infiltration trenches (Handbook page 94).
- Infiltrating dry water quality swales (also referred to as infiltration swales; size swale to infiltrate the WQ volume; Handbook page 78).
- Subsurface infiltration structures (Handbook page 103).
- Dry wells (Handbook page 84).
- Leaching catch basins (only when each leaching catch basin is paired with a traditional off-line, deep-sump catch basin; Handbook page 100).
- Porous asphalt, porous concrete and porous pavers (Handbook page 118).
- Rain gardens and infiltrating bioretention cells (Handbook page 23).

The above practices must be sized separately for each catchment area, using the one inch water quality volume (or the remainder thereof after LID credits). Because the objective is water quality treatment rather than groundwater recharge, capturing and recharging an increased depth of rainfall from only a portion of the site (i.e. recharging 2" of rainfall from 50% of the impervious area rather than 1" from 100% of the impervious) is not acceptable for compliance with the water quality treatment requirement.

Step 3: Treat Remaining Water Quality Volume Using other Bacteria Pathogen-Effective BMPs

Infiltration and evaporation are the only stormwater management BMPs which have demonstrated the ability to consistently meet the pathogen reduction targets of the TMDL(s) applicable to TOWN NAME HERE. Where unusual site constraints make it infeasible to infiltrate all of one inch water quality volume remaining after LID credits, applicants shall use one of the "Pathogen Effective" BMPs described below to treat the remaining water quality volume that is not fully addressed in Step 2.

The Pathogen Effective BMPs listed below are presumed to meet the pathogen TMDL requirements of the TOWN NAME HERE Stormwater Bylaw only when infiltration is not feasible and when the BMPs are sized to treat the remainder of the one inch water quality volume in accordance with the guidelines in the MassDEP Stormwater Handbook regarding applicability, design, sizing, pretreatment, construction and maintenance. Any specific design requirements for Town Name Here are noted in parenthesis.

Pathogen Effective BMPs include the following specific practices:

Filtration Practices

- Filtering bioretention cells (when furnished with an underdrain; Handbook page 23).
- Filtering dry water quality swales (the WQ volume is retained, filtered and discharged via an underdrain; also sometimes referred to as bioretention swales or biofilter swales; not to be confused with drainage channels or grassed channels; Handbook page 78).
- Sand and organic filters, including tree filter boxes (underdrains should not discharge to a catch basin sump; alternate configurations are sometimes known as tree pits, tree channels, green gutters, or stormwater planters; Handbook page 57).
- Porous pavements (although normally used as an infiltration practice, porous pavements can also be utilized as a filtration practice when provided with an appropriate reservoir/filter course and underdrain; Handbook page 118).

Constructed Stormwater Wetlands and Wet Basins

- Shallow marsh wetlands (Handbook page 38).
- Pocket wetlands (Handbook page 41).
- Basin/wetland systems (Handbook page 39).
- Extended detention wetlands (Handbook page 40).
- Gravel wetlands (may arguably be considered a filtration practice; Handbook page 47).
- Wet basins (with appropriate permanent pool volume and length to width ratio; Handbook page 63).
- Wet water quality swales (not to be confused with drainage channels or grassed channels; Handbook page 79).

Alternative Best Management Practices

If an applicant would like to use a BMP not discussed above which it believes is effective at reducing pathogen pollution, the applicant should submit appropriate technical documentation demonstrating the effectiveness of the proposed BMP for consideration by the NAME OF STORMWATER AUTHORITY HERE. Performance information should include third-party testing.

Pathogen-Ineffective Best Management Practices

Many conventional BMPs are ineffective at removing pathogens and dissolved pollutants, and may substantially exacerbate pathogen concentrations in stormwater runoff. While some of these BMPs may play an important role as pre-treatment or volume-control BMPs, they are not considered effective at removing pathogens on their own, nor should they be used as the terminal BMP in a treatment train.

These pathogen-ineffective BMPs include:

- Catch basins, which increase pathogen concentrations. Treated effluent from a Pathogen-Effective BMPs should never be routed through a catch basin.
- Oil and grit separators, and proprietary separators (including particle separators and hydrodynamic separators).
- Sediment forebays.
- Rock lined swales, drainage channels, and grassed swales designed for conveyance rather than water quality. These conveyance practices should not be confused with dry and wet water quality swales, which are designed to retain and treat the water quality volume through media filtration, infiltration or permanent ponding as further described in the MassDEP Stormwater Handbook.

- Dry detention basins, and extended dry detention basins (though in some cases these BMPs may be reconfigured as wetland detention basins which are Pathogen-Effective).

Redevelopment Projects

If an applicant for a redevelopment project wishes to assert that site conditions do not allow the one inch water quality volume to be fully addressed using one or more of the BMPs outlined in Steps 1-3 above, the applicant must submit a narrative justification explaining what specific BMPs were considered and why they could not be implemented. The justification must be prepared at a sufficient level of detail to enable the NAME OF PERMITTING AUTHORITY to make a determination as to the credibility of the assertion and should, at a minimum, address the following points:

- Describe what site design and low impact development BMPs are utilized to reduce the quantity of runoff generated. If there are catchment areas for which no such BMPs are utilized, or for which only a portion of the catchment is managed using such BMPs, describe which site design and low impact development BMPs were considered and why they were deemed infeasible.
- Describe what infiltration and/or evaporation BMPs are used to treat the remainder of the one inch water quality volume. If there are catchment areas where no infiltration/evaporation BMPs are proposed, or where such BMPs treat less than the required water quality volume, describe for each such catchment area why each of the infiltration/evaporation BMPs listed above could not be implemented, addressing site constraints such as tight soils, shallow groundwater, contaminated soils or bedrock. Discuss what measures were considered that would at least partially meet the infiltration requirements. For each such catchment area, identify the remaining portion of the one inch water quality volume to be treated using pathogen-effective BMPs.
- If there are catchments where none of the Pathogen-Effective BMPs listed above are proposed, or where the full remaining water quality volume is not treated with Pathogen-Effective BMPs, describe what portion of the water quality volume is not fully treated, why site conditions don't permit each of the Pathogen-Effective BMPs listed above to be implemented, and what measures were considered that would at least partially meet the pathogen requirements.

Step 4: Pathogen Effective Pollution Prevention Measures

In addition to the structural and non-structural (LID) BMPs outlined above, all applicants must address pollution prevention practices targeting pathogens in their required Operation and Maintenance Plan. Pollution prevention practices vary widely depending on the use of a site. Some pollution prevention practices which are effective at reducing pathogens include:

- Regular street sweeping, particularly when more efficient vacuum sweeping equipment is used.
- Frequently patrolling paved and unpaved areas to remove litter, garbage and pet waste.
- Minimizing the use of water or pressure washers to clean paved surfaces.
- Ensuring that dumpsters are kept under cover (i.e. not exposed to rainfall or, if outdoors, are located away from directly connected paved areas and/or kept tightly sealed).
- Educating site users (employees, customers, residents) about appropriate pest waste management through signage, educational literature, installation of mutt-mitt stations or other measures.

- Educating site users (employees, customers, residents) not to dump anything into catch basins (i.e. pet waste, wash water, etc.) through signage, storm drain markers and informational literature or training activities.
- Discouraging concentrations of waterfowl, vermin and other wildlife through proper management of garbage, and educating site users not to feed wildlife.
- Inspecting all storm drain outfalls at least annually for indicators of potential illicit connections of sewer or septic flow to the storm drain system. Indicators include outfalls with odors, heavy algae growth, white or gray sediments, or flow during periods of dry weather. Follow up tests should be performed promptly on any suspicious outfalls.